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A GLIDING PREVENTER FOR VEHICLE WHEELS

The present invention relates to a device to be fitted on a vehicle wheel of a predetermined size in order to increase the friction between the wheel and the road surface during winter conditions, comprising a belt made substantially from textile material and intended to encircle the tread of the wheel and be held in place by means of flexible inner and outer side portions which, at least on the inner side of the wheel, is tightened by means of an elastic member.

Such a device is known from US 2,682,907, Figures 1 - 3. This known device is symmetrical about its middle plane and is made from a single piece of coarse canvas, which is folded over so that along either of the two outer edges a continuous pocket is formed which receives an elastic member in the form of a helical spring.

The middle portion of the device, which is supposed to constitute the belt to come into contact with the road surface, is by means of glue provided with a coating of aluminium oxide impregnated with abrasive particles in order to substantially increase the friction against the road surface.

The device according to US 2,682,907 is formed to cling quite closely to the vehicle wheel and cannot be put in place on the wheel when the wheel is mounted on a vehicle unless the wheel is raised from the ground. Since the device is symmetrical with flexible side portions having springs included on both sides, the device, e.g. when driving through a curve on a dry road surface, conceivably could creep off the wheel towards the inside thereof and impede the steering mechanism of the vehicle, possibly also damage brake lines. Once the device has moved to the inner side of the wheel, it cannot be removed without destroying the device or removing the wheel from the vehicle.

A purpose of the present invention is to provide a device mentioned in the introductory paragraph, which may be fitted to the wheel of the vehicle even when the wheel is resting on the road surface with the full weight of the vehicle, preferably also when the wheel is stuck in more or less deep snow.

This is obtained according to the invention by making the internal circumference of the belt at least 4% larger than the largest circumference of the wheel. Very surprisingly, it has been found that such an oversize makes it possible to fit the inner side portion over the tread of the wheel to the inner side of the wheel along such a long part of the circumference of the wheel not being in contact with the road surface that, when the wheel thereafter is rotated, e.g. by attempting to drive the car forwards or backwards, the remaining part of the inner side portion will assume its place on the inner side of the wheel and pull the belt in place along the tread of the wheel.

It has also surprisingly been found that with this oversize, which can be permitted to amount up to 8% or more, somewhat depending on the space conditions in the wheel well of the vehicle, the device will stay in place on the wheel even when driving on a clear and winding road at speeds at least as high as common snow chains would permit.

A second purpose of the invention is to provide a device of the type mentioned in the introductory paragraph which will not be able to shift on the wheel so that dangerous driving situations occur.

This is obtained according to the invention by the outer side portion of the device being shaped so that it will not be able to jump over the wheel to the inner side thereof. Here, the outer side portion may e.g. cover the entire outer side of the wheel, or it may be provided with one or more openings, the largest circumference of such an opening

being less than 2.2 times the largest diameter of the wheel. Where the outer side portion is so narrow that its opening becomes larger than this, the opening can be limited by means of radially extending straps. These straps
5 may also be suitable as gripping means when the device is to be removed from the wheel after use.

A further purpose of the present invention is to provide a method for fitting a device according to the invention to a
10 vehicle wheel while the wheel is mounted on the vehicle and possibly also is stuck in snow.

This is obtained according to the invention in that the inner side portion is fitted over the tread of the wheel to
15 the inside of the wheel along at least two thirds of the circumference of the wheel, preferably along as much as possible of that part of the circumference which does not rest against the road surface, whereupon the wheel is rotated by means of the vehicle, whereby the remaining part of the inner
20 side portion moves to assume its place on the inside of the wheel and pulls the belt in place along the tread of the wheel.

Further advantageous features of the invention will appear
25 from the following description of the exemplifying embodiments schematically shown on the dependent drawings, wherein:

Figures 1A,B,C are a perspective view of a vehicle wheel
30 provided with a first device according to the invention seen from the outside, a perspective view of the wheel in Figure 1A seen from the inner side, and a partial radial cross-section through the wheel in Figure 1A, respectively;

35 Figures 2A,B,C are views similar to Figures 1A,B,C of a second embodiment of the invention, except that the wheel is removed from Figures 2A and 2B;